In the Claims:

Please amend the claims as follows:

1. (previously amended) A TCP local retransmission scheme, used in an unreliable network, is comprised of :

A. when an access point of an unreliable link receives a new TCP data packet from an Internet TCP source, said access point inserting into said data packet, an LAC-PDU head with a timestamp of a first local sequence number; said data packet encapsulated as an LAC-PDU packet comprising "LAC-PDU head + IP head + TCP head + Data";

B. delivering said data packet to a current terminal; said current terminal producing an acknowledgement packet (ACK1) comprising an acknowledgement number (AN) when said current terminal successfully receives a TCP data packet; said current terminal also inserting to said LAC-PDU head, a time-stamp of a second local sequence number such that said acknowledgement packet is encapsulated as an LAC-PDU acknowledgement packet and is delivered back to said access point of an unreliable link;

C. at said access point of an unreliable link, detecting whether there is data packet loss based on said time-stamp of a first local sequence number, stored in said access point, said acknowledgment number (AN) and said time-stamp of a second local sequence number, wherein both are determined from said acknowledgement packet; and

D. if a lost data packet is detected, updating and retransmitting said time-stamp of a first local sequence number in LAC-PDU head, and when congestion loss of the data packet which corresponds to said acknowledgement number (AN) of acknowledgement packet (ACK1) is impossible, said acknowledgement packet (ACK1) along with a marked explicit retransmission feedback (ERN) field is delivered to said Internet TCP source.

2. (previously amended) A TCP local retransmission scheme, used in an unreliable network, as per claim 1, wherein a copy of said encapsulated LAC-PDU data packet is stored in a buffer at the time, an LAC-PDU head is inserted with said time-stamp of a first local sequence number.

3. (previously amended) A TCP local retransmission scheme, used in an unreliable network, as per claim 1, wherein said time-stamp of a first local sequence number is a fixed-length bit field which increases sequentially starting from zero with a step length of one as data packets are received.

4. (previously amended) A TCP local retransmission scheme, used in an unreliable network, as per claim 1, wherein the real delivery sequence is uniquely determined by said time-stamp of a first local sequence number of said TCP data packet during delivery from said access point to said current terminal.

5. (previously amended) A TCP local retransmission scheme, used in an unreliable network, as per claim 1, wherein said time-stamp of a second local sequence number is a fixed-length bit field recording the maximum value attained by said time-stamp of a first local sequence number among TCP data packets successfully received at said current terminal.

6. (previously amended) A TCP local retransmission scheme, used in an unreliable network, as per claim 1, wherein a lost data packet is detected based on said acknowledgement number (AN), said time-stamp of a second local sequence number, both determined from said received acknowledgement packet, and said time-stamp of a first local sequence number, which is stored at said access point; wherein said detection determines whether a data packet corresponding to

said acknowledgement number (AN) of acknowledgement packet is still at said access point of unreliable link, and if so, a comparison between two time-stamps is made;

A. said comparison is made between time-stamps of a first local sequence number in said received data packet and a second local sequence number in said acknowledgement packet;

B. wherein if said time-stamp of a first local sequence number is less than said time-stamp of a second local sequence number, a lost data packet is detected; and

C. said time-stamp of a first local sequence number at the LAC-PDU head is updated; said lost data packet is retransmitted; and at said access point of unreliable link, data packets for which the timestamp of a first local sequence number is less than an associated acknowledgement number (AN) are deleted.

7. (previously amended) A TCP local retransmission scheme, used in an unreliable network, as per claim 6, wherein said update of time-stamp of a first local sequence number at LAC-PDU data packet head substitutes said time-stamp of a first local sequence number with a current delivery sequence and then, retransmits said data packet.

8. (previously amended) A TCP local retransmission scheme, used in an unreliable network, as per claim 6, wherein, data packets for which a TCP sequence number is less than an associated acknowledgement number indicates that either:

a data packet, which corresponds to said acknowledgement number (AN) of acknowledgement packet, is not in said access point of unreliable link; or

said time-stamp of a first local sequence number is either equal to or greater than said time-stamp of a second local sequence number;

after lost data packet is detected, updated, and retransmitted.

9. (previously amended) A TCP local retransmission scheme, used in an unreliable network, as per claim 6, wherein when said data packet corresponding to said acknowledgement number (AN) in said access point of unreliable link is detected, an explicit retransmission (ERN) feedback bit of said acknowledgement packet (ACK1), which is to be sent to a TCP source, is set; and when said TCP source receives said acknowledgement packet (ACK1) with explicit retransmission (ERN) feedback bit set at the same time that either of: fast retransmission or timeout retransmission of said data packet corresponding to said acknowledgement packet (ACK1) occurs, said data packet is retransmitted without a corresponding shrink operation of send window of said TCP source; and wherein said explicit retransmission (ERN) feedback is a one-bit field.

10. (previously amended) A TCP local retransmission scheme, used in an unreliable network, as per claim 1, wherein said time-stamp length for either a first local sequence number or a second local sequence number, is the maximum number of data packets that can be buffered at said access point of unreliable link.

11. (previously amended) A TCP local retransmission scheme, used in an unreliable network, as per claim 1, wherein said time-stamp length for either a first local sequence or a second local sequence number is an eight-bit field; and wherein one of said eight bits is designated as a carry bit for overflow.

12. (previously amended) A TCP local retransmission scheme, used in an unreliable network, as per claim 1, wherein said time-stamp of a first local sequence number of said LAC-PDU data

packet is substituted with a lower layer transfer sequence number; said substitution establishing a corresponding relationship between the sequence number of said TCP data packet and its lower layer transfer sequence number and wherein said time-stamp of a second local sequence number is the maximum successfully transferred lower layer sequence number in said current terminal.

13. (previously amended) A TCP local retransmission scheme, used in an unreliable network comprised of: transmitting a data packet for a mobile communication system; said mobile communication system receiving said data packet including sequence number from at least one Internet network and transmitting said data packet to a mobile terminal said transmission method comprising:

receiving a data packet from said at least one Internet network;

giving a time-stamp of a first local sequence number to each of said received data packets;

formatting said received data packets in accordance with said mobile communication system with said given time-stamp of a first local sequence number;

buffering said data packet with the given timestamp;

transmitting said formatted data packet to said mobile terminal and sending back acknowledgement data from said mobile terminal when said mobile terminal successfully receives transmitted data packet, which includes an acknowledgement number and a time-stamp of second local sequence number corresponding to said time-stamp of a first local sequence number;

detecting whether said data packet should be retransmitted to said mobile terminal by comparing a buffered sequence number and said time-stamp of a first sequence number associated with said acknowledgement data received from said mobile terminal; and

retransmitting said detected data packet, if determined necessary in said detecting step.

14. (presently amended) A TCP local retransmission scheme, used in an unreliable network, as per claim 13, [[,]] wherein said mobile communication system comprising a server; said server giving said time-stamp of a first local sequence number to each of said received data packets, formatting said data packet in manner used by said mobile communication system with said given time-stamp; and buffering said data packet along with said given time stamp.

15. (previously amended) A TCP local retransmission scheme, used in an unreliable network, wherein a method of receiving a data packet from a mobile terminal in a mobile communication system comprises:

a. receiving said data packet comprising a sequence number from at least one Internet network and transmitting said data packet to said mobile terminal; said reception comprising:

b. receiving said data packet formatted in accordance with said mobile communication system, said formatted data packet comprising a time-stamp of a first local sequence number;

c. giving a time-stamp of a second local sequence number corresponding to said received time-stamp of a first local sequence number; and

d. sending back acknowledgment data comprising an acknowledgement number and said given time-stamp of a second local sequence number corresponding to said received time-stamp of a first local sequence number.